

CLAIMS

What we claim is:

1. A microarray plate comprising:

a plate; wherein the plate has a plurality of support members and wherein the plate has features along the borders for clamping.

a plurality of sensors, wherein the sensors are attached to the end of the support members;
2. The microarray plate of claim 1 wherein the sensors are microarrays.
3. The microarray plate of claim 1 wherein the sensors are attached to the end of the support members by bonding.
4. The microarray palte of claim 3 wherein the bonding is by an adhesive.
5. The microarray plate of claim 4 wherein the adhesive is a low fluorescent adhesive.
6. The microarray plate of claim 1 wherein the sensors are attached to the end of the support members by welding.
7. The microarray plate of claim 1 wherein the support members are pegs.
8. The microarray plate of claim 1 wherein the plate is made of cyrolite.
9. The microarray plate of claim 1 whereint he plate can be clamped to a hybridization tray.
10. The microarray plate of claim 1 wherein the plate can be clamped to a detection plate.
11. A hybridization plate comprising:

a plate with a plurality of wells; wherein the plate can sustain high temperatures during hybridization;

a sealing surface.

12. The hybridization plate of claim 11 wherein the wells can be assembled with an array plate.
13. The hybridization plate of claim 11 wherein the sealing surface is over-molded onto the plate.
14. The hybridization plate of claim 11 wherein the sealing surface is an elastomer.
15. The hybridization plate of claim 11 wherein the plate has features along the borders for clamping to a second plate.
16. The hybridization plate of claim 11 wherein the plate is made of a material which can withstand high temperatures.
17. The hybridization plate of claim 16 wherein the temperature is above 60°C.
18. The hybridization plate of claim 11 wherein the plate is made of polycarbonate.
19. The hybridization plate of claim 11 wherein the plate is suitable for chemiluminescence.
20. A detection plate comprising:
 - a plate with a plurality of wells;
 - an optically clear window at the bottom of the wells.
21. The detection plate of claim 20 wherein the window is made of Zeonor.
22. The detection plate of claim 20 wherein the scanning plate has features along the border of the plate for clamping to a second plate.
23. A system of processing a microarray plate comprising:
 - a microarray plate;
 - a hybridization plate;
 - a plurality washing plates;

- a plurality of staining plates; and
 - a detection plate.
24. The system of claim 23 wherein the hybridization plate is disposable.
 25. The system of claim 23 wherein the detection plate is disposable.
 26. The system of claim 23 wherein the hybridization, washing, staining and detection plate use clean solutions for processing the microarray plate.
 27. A method of processing a microarray plate comprising:
 - immersing a microarray plate into a hybridization plate;
 - immersing the microarray plate into a plurality of washing trays;
 - immersing the microarray plate into a plurality of staining trays;
 - immersing the microarray plate into a detection plate.
 28. The method of claim 27 wherein the hybridization, washing trays, staining trays and detections trays contain clean solutions for processing.
 29. A method of constructing a microarray plate comprising:
 - dicing microarrays from a wafer;
 - transferring microarrays to a waffle pack;
 - providing a plate;
 - coating the plate with an adhesive;
 - attaching the diced microarrays to the plate as to create a microarray plate.
 30. The method of claim 29 wherein the plate has a plurality of support members.
 31. The method of claim 29 wherein the plate coated with adhesive by pressing the plate against a pad with adhesive.
 32. The method of claim 29 wherein the adhesive is UV curable.

33. The method of claim 29 wherein the waffle pack has openings at the bottom.
34. The method of claim 32 wherein a UV light source is provided at the bottom of the of the waffle pack openings.
35. The method of claim 33 wherein a vacuum chamber is provided at the bottom of the waffle pack openings.
36. The method of claim 35 wherein the diced microarrays are held in position on the waffle pack with the use of the vacuum chamber.
37. The method of claim 34 wherein the adhesive is cured with the UV light source for bonding the microarrays to the plate through the openings of the waffle pack when the plate is in contact with the waffle pack.
38. A method for constructing a sensor plate comprising:
 - dicing a substrate to produce a plurality of sensors;
 - attaching each of the plurality of sensors on a plurality of supporting members;
 - wherein at least two of the supporting members are connected.
39. The method of claim 38 wherein the sensors are microarrays.
40. The method of claim 38 wherein the sensors are attached to the end of the supporting members.
41. The method of claim 40 wherein the sensors are attached to the end of the supporting member by bonding.
42. The method of claim 41 wherein the bonding is done with an adhesive.
43. The method of claim 42 wherein the adhesive is low fluorescence.
44. The method of claim 38 wherein the supporting members are pegs.